

Data Mesh: Game Changer or Just Hot Air?

Is data mesh a sustainable approach to data
responsibility in the business

Topical Survey

Authors

Jacqueline Bloemen

Timm Grosser

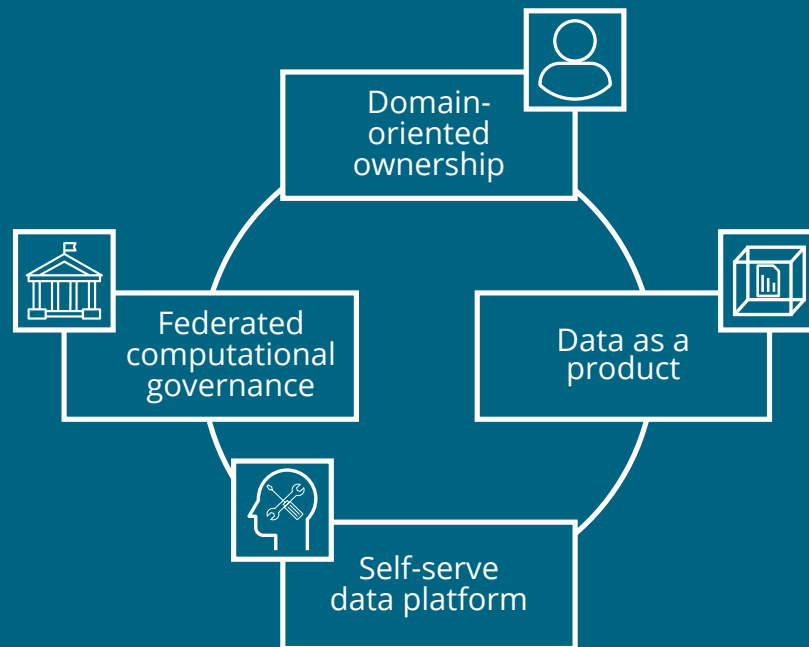
Thomas Zeuschler

This study was prepared by BARC, an independent market analyst firm. It is available free of charge thanks to the generosity of Denodo and One Data.



Preface

Data mesh is a hot buzzword, but what is behind it? Regardless of how one feels about it, the concept addresses some highly relevant areas. It is about a focus on data products and the decentralized creation of and responsibility for data products in the line of business, which are based on a self-service analytics infrastructure and federated data governance with a high degree of automation.



But does data mesh really address the central pains that many companies are struggling with? Are the principles of data mesh suitable for solving these challenges in practice? What functional, technical and organizational measures are companies applying and how far have they come? Are there special demands on the technology?

This study examines how companies view data mesh and how relevant the concept is in terms of their data democratization journey. It explores the organizational and technical directions enterprises are currently choosing and the experience they have gained so far. We examine how consistently data mesh advocates act and how that differs from the actions of those who do not consider data mesh relevant. We also consider data intelligence in the context of data mesh.

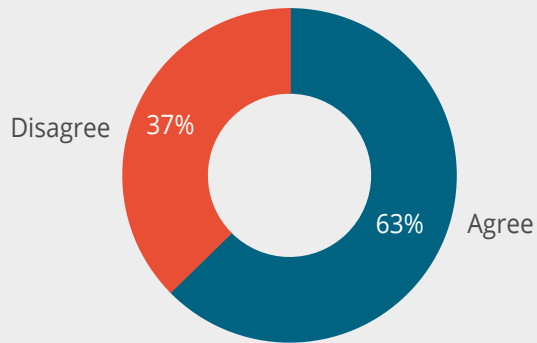
It has clearly been confirmed that all the pillars of data mesh are highly relevant to most organizations and are being implemented by many, regardless of whether they are called data mesh or not. However, there is no one-size-fits-all approach. The data mesh toolbox must be adapted to the reality of the company and supplemented by other measures. Each company must plot its own individual data democratization journey – it won't be found in the data mesh book.

Jacqueline Bloemen
Würzburg, April 2023

Management Summary

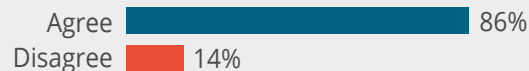


Central D&A-teams lack business domain expertise, which is a risk to data & analytics assets:



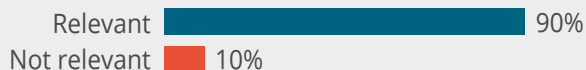
To what extent do you agree with these statements?
(n=334)

Data is a revenue driver:



To what extent do you agree with these statements?
(n=334)

Apply product thinking to D&A assets:



Which of these measures are relevant for your company to improve the quality of its D&A assets? (n=322)

1

Should Business Domains Own Data Products?

Executives in particular believe that centralized data teams will not meet future data & analytics requirements. They do not scale sufficiently and lack domain expertise. In practice, the shift towards more data ownership in business domains is well underway. Ownership of reports/ dashboards and ad hoc and visual analytics already lies primarily in the business domain. In terms of data preparation, the responsibility currently lies mainly with technical users - but there is also a notable ownership share in the business, especially for consumer-oriented and ML/AI-oriented data products.

To become a more data-driven enterprise, you need a shift towards more decentralized data ownership in the business domains. A decentralized model ensures scalability and thus flexibility and agility. In addition, domain expertise creates even better data products that meet business requirements. In this scenario, the central data teams take on a new, very important role. They support the business domains as advisors, and ensure the availability and stability of the data & analytics platform.

2

What Sharing Data as a Product Implies

When data is a revenue driver, it needs to be treated as an asset. The most important measure to improve the quality of data & analytics assets in the enterprise is to treat data as a product. This should apply not only to analytical data, but above all to operational source data. Continuous monitoring helps ensure the targeted improvement of data assets. However, these conclusions are not reflected in practice.

Handle your data as you handle your products. Data products, like any product, should be valuable, feasible and desirable. They need to adhere to a set of usability characteristics determined by data product consumers. Finding the right balance requires monitoring and targeted improvement driven by business priorities. Therefore, place the responsibility for the appropriate alignment of data products in the hands of the business units.

Management Summary



3 Does Self-Service Empowerment Require a Central Platform?

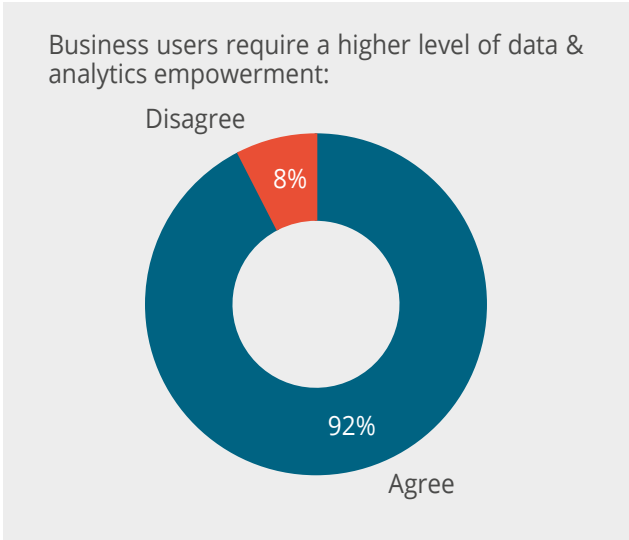
It is undisputed that business users need to be empowered to perform their data & analytics tasks through a self-serve data platform. However, there is no one-size-fits-all self-service offering. For most users, elementary analytical functions such as report/dashboard authoring, data visualization and ad hoc analysis are very important. Data & analytics experts place more value on advanced analytics and their integration into operational systems than the average user. In doing so, they obviously aim to generate more value from analytics than just with passive numbers.

Shape your self-serve data platform according to the needs of different target groups. Casual users need to be supported differently than data-savvy users. The latter are increasingly demanding to be empowered in the direction of data preparation and advanced analytics. These divergent needs do not necessarily have to be addressed in a single platform. Plan your platform and architecture in such a way that you can make data assets from different platforms available and linkable as needed.

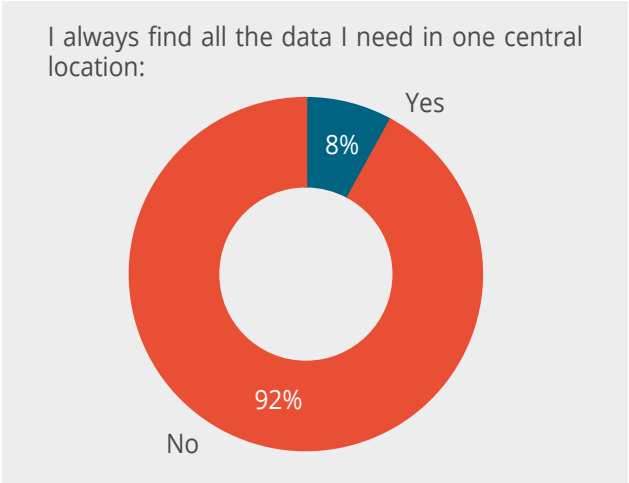
4 Federated Data Governance on the Rise

When data & analytics are used extensively in every business domain, a purely centralized governance concept threatens to reach its limits. While the chosen approaches to data governance are diverse, central and federated approaches are currently much more popular and successful than local ones. Process and data experts from business units as well as managers are more satisfied with the results of their measures than participants from central data & analytics teams or IT in general.

Whether centralized or federated, choose a data governance approach that fits current requirements, governance maturity and corporate culture. Avoid purely local approaches, however, as these are less successful according to our study. Be aware that your data governance approach will need to evolve over time, as 77 percent of participants confirm. With increasingly distributed data & analytics utilization across business units, a more federated approach is advisable.



To what extent do you agree with these statements? (n=334)



How often do you meet your information needs through the following sources? (n=335)

Management Summary



5

Is Data Mesh Understood and Appreciated?

Despite the relevance of data mesh in general, not all organizations seem to consistently adhere to all four data mesh principles. Only a few of the companies that are already implementing a data mesh also want to shift responsibility for data assets to domain teams in business. On the other hand, most companies clearly see the connection between applying product thinking to data and data mesh. In terms of platform design, no clear preference can be discerned among the data mesh implementers. However, most of our study participants are convinced that data & analytics should be organized in a much more distributed manner in the future.

Independent of the discussion around data mesh, the concept addresses some highly relevant areas. The principles are currently being adopted by many organizations, regardless of whether they are called data mesh or not. Be inspired by this and evaluate their applicability to the current challenges of your data & analytics landscape and organization. Check which measures are currently realistic for you, because not all of them can be implemented equally well and equally quickly. Monitor the selected steps so you can show their benefits. Investments in data & analytics should pay off, and this should be transparent.

6

Data Intelligence: The Key to Success

80 percent of study participants are planning a data intelligence initiative or are already implementing one. Data intelligence goes beyond the mere cataloging of data assets. It leverages metadata to ensure efficient and effective collaboration between data product owners and data consumers. Platforms that support data intelligence provide the source for the federated computational governance propagated in the data mesh concept.

The democratization of data will only succeed if access to and understanding of data assets is simplified. Data citizens need to be able to search for assets and find information about their origin and nature. Enable them to share experiences with other data workers. A rating system will help to make the benefits of data measurable. Consider implementing a data intelligence platform that supports data provisioning and use, and enables streamlined monitoring and governance.

Relevant and being done



19%

Relevant and planned



35%

Relevant but not planned



31%

Of little or no relevance



15%

How relevant is the data mesh concept for your company? (n=293)

Relevant and being done



43%

Relevant and planned



37%

Relevant but not planned



16%

Of little or no relevance



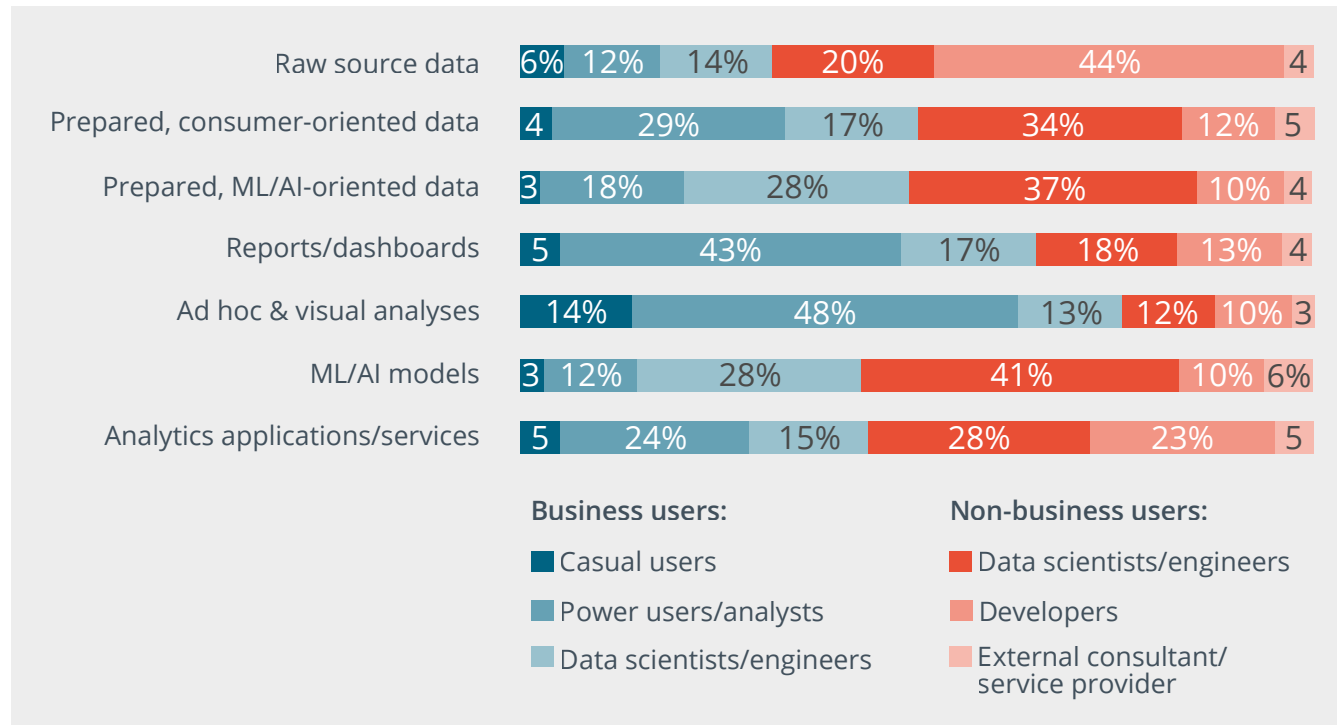
4%

How relevant is data intelligence for your company? (n=313)

01. Should Business Domains Own Data Products?



The need for data agility and freedom - a contradiction to centralized data management?



Who is mostly responsible for the following data products in your company? (n=326)

Since the emergence of the data warehouse idea, companies have designed their teams for the development and support of data & analytics solutions fundamentally differently than for other business applications. The latter are typically implemented by domain-oriented teams that cooperate closely with the domain experts in the

lines of business. For data & analytics applications, on the other hand, functional teams develop applications across many domains.

However, a centralized approach to data & analytics poses major risks, as participants in our survey confirm. 55 percent of respondents see the

insufficient scalability of central data & analytics teams as a problem. Among executives, this opinion is even more widespread (65 percent). A lack of domain expertise in these functional teams is seen as a problem by as many as 63 percent of participants. Here, too, the level of agreement on the business side is even higher (business departments: 72 percent; executives: 79 percent).

The current trend toward more self-service analytics is already addressing this dilemma to some extent. According to our study, this is particularly evident in the responsibility for reports and dashboards as well as ad hoc and visual analyses. The majority of these are already in the hands of business users (65 and 75 percent respectively), primarily power users and business analysts. However, it is interesting to note that responsibility for data preparation (raw source data: 32 percent; consumer-oriented data: 50 percent; ML/AI-oriented data: 49 percent) and the creation of ML-based solutions (43 percent and 44 percent respectively) is also already quite frequently in the hands of business users. But the responsibility for managing data assets is most often still in IT. 44 percent of study participants indicated that raw data is provided by developers in IT. Consumer and ML/AI-oriented data, as well as ML/AI models and applications, are most commonly created by data scientists/engineers in IT.

Data Decisions. Built on BARC.

BARC

BARC

BARC is one of Europe's leading analyst firms for business software, focusing on the areas of data, business intelligence (BI) and analytics. The company was founded in 1999 as a spin-off of the chair of Business Administration and Information Systems at the University of Würzburg, Germany. Today, BARC combines empirical and theoretical research, technical expertise and practical experience, and a constant exchange with all market participants to provide market-leading research publications, events and advisory.

Research

BARC user surveys, software tests and analyst assessments in blogs and research notes give you

the confidence to make the right decisions. Our independent research gets to the heart of market developments, evaluates software and providers thoroughly and gives you valuable ideas on how to turn data, analytics and AI into added value and successfully transform your business.

Consulting

The BARC Advisory practice is entirely focused on translating your company's requirements into future-proof decisions. The holistic advice we provide will help you successfully implement your data & analytics strategy and culture as well as your architecture and technology. Our goal is not to stay for the long haul. BARC's research and experience-

founded expert input sets organizations on the road to the successful use of data & analytics, from strategy to optimized data-driven business processes.

Events

Leading minds and companies come together at our events. BARC conferences, seminars, roundtable meetups and online webinars provide more than 10,000 participants each year with information, inspiration and interactivity. By exchanging ideas with peers and learning about trends and market developments, you gain new impetus for your business.

Germany

BARC GmbH
Berliner Platz 7
D-97080 Würzburg

www.barc.com
+49 931 880 6510

Austria

BARC GmbH
Hirschstettner Straße 19
/ 1 / IS314
A-1220 Wien

www.barc.com
+43 660 6366870

Switzerland

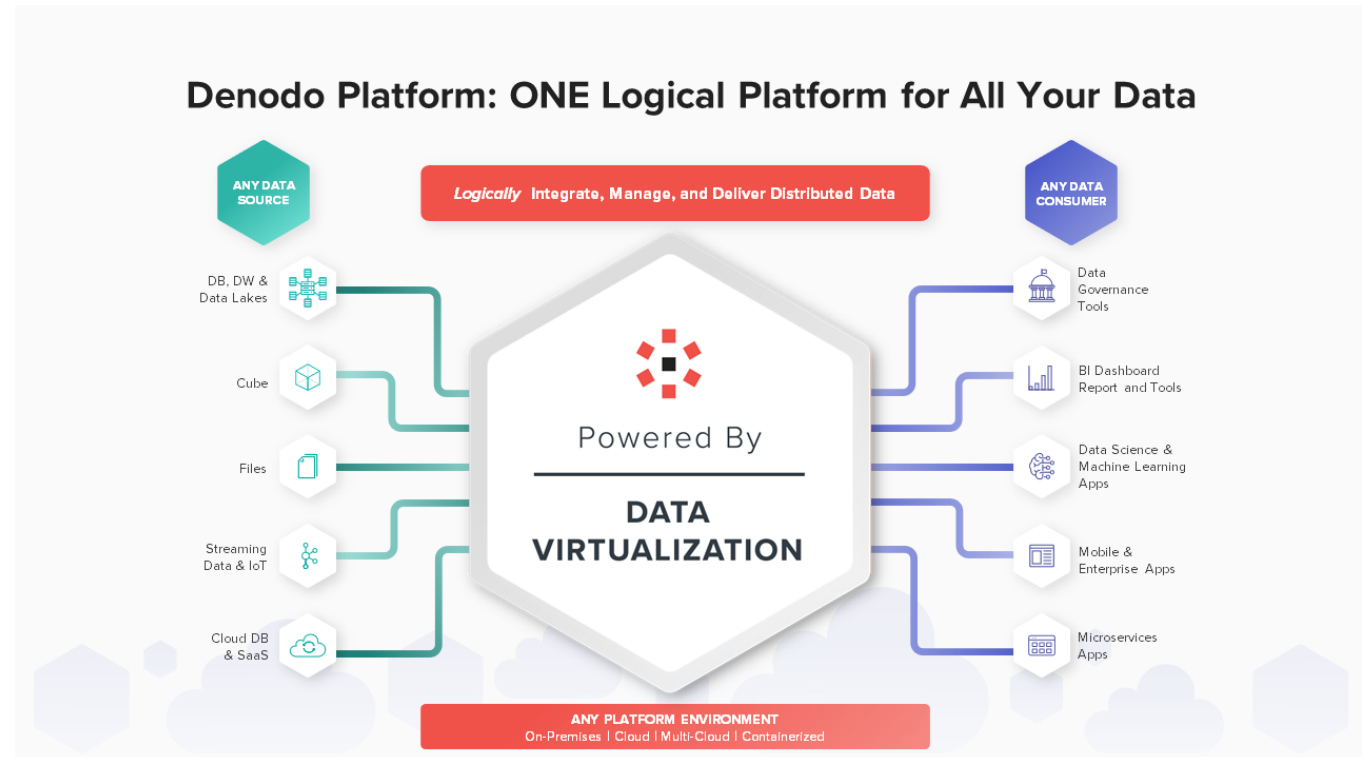
BARC Schweiz GmbH
Täferstraße 22a
CH-5405 Baden-Dättwil

www.barc.com
+41 56 470 94 34

Rest of the World

www.barc-research.com
+44 1536 772 451

Denodo is a leader in data management. The award-winning Denodo Platform is the leading data integration, management, and delivery platform using a logical approach to enable self-service BI, data science, hybrid/multi-cloud data integration, and enterprise data services. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across large enterprises and mid-market companies in 30+ industries have received payback in less than 6 months. For more information, visit www.denodo.com.



Germany

Denodo Technologies GmbH
Oberanger 28
Munich, 80331
+49 89 599 904 50
www.denodo.com
info.emea@denodo.com

UK: +44 20 3196 4710

Spain: +34 912 77 58 55

France: +33 1 42 68 51 27

Italy: +39 2 72546395

Sponsor profile

One Data

One Data, a German software company, provides an AI-powered Data Product Builder that simplifies and accelerates the delivery of reliable, reusable, and easy-to-manage data products. It helps collaborative data teams scale their innovation to match business demands.

The Data Product Builder empowers data experts to easily connect, discover, prep, quality-check, and deploy data products. An interactive data map enables data experts to see the entire data landscape, assess data assets, and identify connections between them, reducing the time to build data products.

Germany

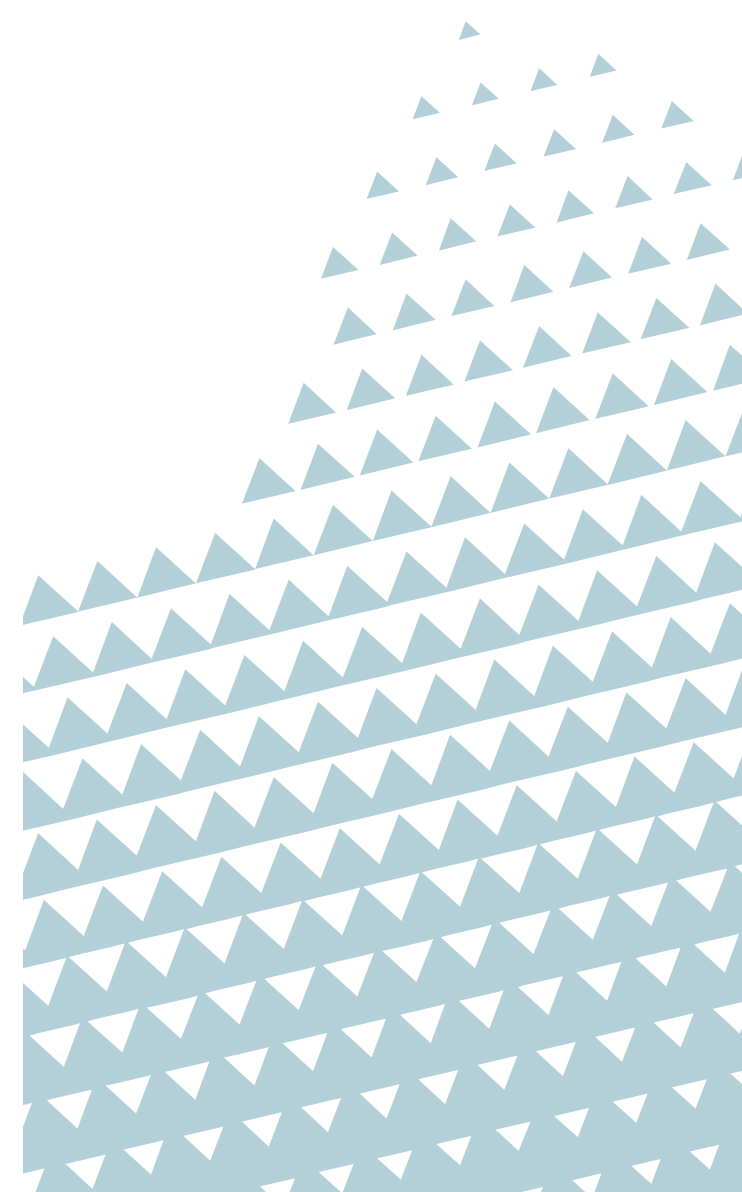
One Data
Prinzregentenstraße 50
80538 München
+49 89 954 592 70
sales@onedata.de
www.onedata.de/en

Leading data-driven organizations choose One Data to develop and deploy cutting-edge data mesh or fabric architectures. Business users can access data products via a marketplace using their preferred analytics or data science tools. One Data is committed to empowering data teams to achieve their full potential and fostering data cultures within organizations.

Join our mission to revolutionize the way data products are built and deployed and visit www.onedata.de/en or follow us on [LinkedIn](#).



One Data



Authors



Jacqueline Bloemen
Senior Analyst

Jacqueline Bloemen is a senior analyst with a major focus on data & analytics strategy and culture, architecture and technology, governance and organization. She is an author and speaker and has been advising companies of various sizes and industries for over 35 years. Currently, her research and consulting activities focus on the transformation to becoming a data-driven company.



Timm Grosser
Senior Analyst Data & Analytics

As a senior analyst, Timm Grosser has been advising domestic and international companies of various sizes and industries in the areas of BI, data management and analytics for more than 10 years. During his time as a consultant, he has designed numerous solutions in BI/big data strategy, organization, architecture and tool selection with customers and in the BARC test lab. He is a frequent speaker at conferences and seminars as well as the author of numerous industry articles and market studies.



Thomas Zeuschler
Senior Analyst

Thomas Zeuschler has a long-standing background in data & analytics, being globally responsible for big data, analytics, IoT, cloud, software development and technological innovation at Henkel Group in Düsseldorf. As a data scientist and software developer as well as change manager for large digital transformation programs, he is a sought-after expert for modern, cloud-based data management and data-driven business.

BARC

